

California Energy Commission STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

Addendum 3 for Selected Projects Awarded Funding Through
the Alternative and Renewable Fuel and Vehicle Technology
Program Under Solicitation PON-13-609 – Pilot-Scale and
Commercial-Scale Advanced Biofuels Production Facilities



CALIFORNIA
ENERGY COMMISSION

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to “develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.” Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (ARB) to develop guidelines to ensure air quality improvements. The ARB Air Quality Improvement Program (AQIP) Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The AQIP Guidelines require the Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this *Localized Health Impacts Report* is required to be available for public comment for 30 days prior to the approval of projects.

This *Localized Health Impacts Report* analyzes the combined impacts in the communities, including exposure to air contaminants or localized air contaminants, or both, and including, but not limited to, communities of minority populations or low-income populations, as declared by the project proposers or as determined by Energy Commission staff. Appendix A, Localized Health Impact Report Assessment Method, describes the analysis used for this *Localized Health Impacts Report*.

Keywords: Air pollution, air quality, air quality improvement program (AQIP), Air Resources Board (ARB), alternative fuel, Assembly Bill (AB) 118, assessment, biodiesel, biomethane, California Environmental Quality Act, criteria emissions, demographic, diesel substitute, Energy Commission, environmental justice, Environmental Justice Screening Method (EJSM), environmental justice (EJ), ethanol, gasoline substitute, greenhouse gas emissions (GHG), localized health impact (LHI), renewable diesel

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EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343)*, this *Localized Health Impacts Report* describes the alternative fuel infrastructure projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include a project that requires only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This *Localized Health Impacts Report* focuses on the potential impacts a project may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice communities, low-income communities, and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The project in this *Localized Health Impacts Report* is assessed for potential health impacts for the communities in which it will be located. Based on this analysis, it is not anticipated that implementation of this project will have negative impacts because there will not be a net increase in criteria and toxic emissions, specifically in those communities that are considered most vulnerable. Potentially, the project stands to provide improved quality of life through cleaner air.

CHAPTER 1:

Project Proposed for Funding

The California Energy Commission, through the Alternative and Renewable Fuels and Vehicle Technology Program (ARFVTP), released a competitive grant solicitation and application package on January 14, 2014. The application due date was March 25, 2014. Grant solicitation PON-13-609 sought to fund projects that develop new or modify existing California-based biofuel production facilities that can sustainably produce at least 50,000 diesel gallon equivalents per year for liquid fuels or 10,000 diesel gallon equivalents per year for biomethane.

The *Localized Health Impacts (LHI) Report* for PON-13-609 was posted May 9, 2014. This report reflected the Round 1 Notice of Proposed Awards (NOPA) for PON-13-609. On July 18, 2014, the California Energy Commission posted Round 2 NOPA, resulting in additional projects proposed for funding under PON-13-609. On December 16, 2014, an additional Round 2 NOPA resulted in Viridis Fuels, LLC becoming eligible for funding under PON-13-609.

This *Localized Health Impacts Report Addendum* assesses and reports on the potential localized health impacts for the additional project recommended for funding. The proposed address for the biorefinery facility:

Table 1: Proposed Address for Biorefinery Facility

Viridis Fuels Oakland Biodiesel Facility	One location composed of two parcels: 2040 Wake Avenue, Oakland, California 94607 2400 Engineer Road, Oakland, California 94607
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CHAPTER 2:

Identification of Communities Potentially Impacted by Air Pollution

The Localized Health Impact Report Assessment Method in Appendix A is used to assess communities potentially impacted by air pollution and benefitted as a result of this proposed project. The California Air Resources Board's (ARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to integrate data to identify low-income communities that are highly impacted by air pollution.¹ Other resources used in this assessment are the *California Infrastructure State Implementation Plans*,² which contains publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants*³.

The community where the biorefinery facility is located is in a nonattainment designated area⁴ in California. This designation accounts for ten pollutants: ozone, suspended particulate matter⁵ (PM 10 and PM 2.5), carbon monoxide, nitrogen dioxide, sulfur dioxide, sulfites, lead, hydrogen sulfide, and visibility reducing particles. Table 2 shows information on environmental justice (EJ) indicators for the surrounding community, such as minority populations, low incomes, and highly sensitive groups based on age (individuals younger than 5 years of age and older than 65 years of age).

1 California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution*, 2010 (Sacramento, California).

2 <http://www.arb.ca.gov/planning/sip/sip.htm>.

3 <http://www.epa.gov/oaqps001/greenbk>.

4 <http://www.arb.ca.gov/desig/statedesig.htm>

5 "Particulate matter" is any material, except pure water, that exists in the solid or liquid state in the atmosphere. The size of particulate matter can vary from coarse, wind-blown dust particles to fine particle combustion products.

Table 2: Environmental Justice (EJ) Indicators (percentage) Compared to the State of California

Yellow highlighted areas indicate numbers that meet the definition for EJ indicators.

	Number of EJ Indicators	Below Poverty Level (2009-2013)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (11/14 2014)
California		15.9	6.2	1.0	13.0	37.6	6.8	11.4	7.3
			>30	>30	>30	>30			
Oakland	2	20.5	28.0	0.8	16.8	25.4	6.7	11.1	8.7

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division:

<http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133> and [Age / ethnicity demographics, U.S. Department of Census: http://quickfacts.census.gov](http://quickfacts.census.gov).

CHAPTER 3:

Summary

If funded, the proposed project would result in one site for commercial-scale advanced biofuel production. The site is located at the western portion of the city of Oakland near the convergence of Interstate 80, Interstate 580, and Interstate 880 in Alameda County. The site zoning code is general industrial and was formerly a U.S. Army Reserve Center. Industrial and commercial buildings surround the site, and there are no homes, daycare facilities, elder care facilities, medical facilities or schools near the site. As indicated in Table 2 of this *Localized Health Impact Report*, Oakland has two EJ indicators, which are poverty and unemployment. Based on the review of the proposed project, it will increase the widespread use of alternative fuel vehicles. As more alternative fuel vehicles enter the market and begin to displace gasoline and diesel vehicles, tailpipe pollutants will decrease significantly. A net benefit is realized from less petroleum use and more alternative fuel use as a result of this project. The anticipated impacts to the city where this project would be located are positive in terms of cleaner air and anticipated GHG reductions.

CHAPTER 4:

Acronyms

Air Quality Improvement Program (AQIP)

Air Resources Board (ARB)

Alternative Fuel Vehicle (AFV)

Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

Assembly Bill (AB)

California Code of Regulations (CCR)

California Environmental Quality Act (CEQA)

Environmental justice (EJ)

Environmental justice screening method (EJSM)

Greenhouse gas (GHG)

Localized health impact (LHI)

Notice of Proposed Awards (NOPA)

Particulate matter (PM)

Program Opportunity Notice (PON)

APPENDIX A:

Localized Health Impact Report Assessment Method

Based on the Energy Commission's interpretation of the AQIP Guidelines, this *LHI Report* assesses the potential impacts to communities as a result of the projects proposed by the ARFVTP. This report is prepared under the *California ARB AQIP Guidelines, California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

“(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

(B) Projects must be selected and approved for funding in a publicly noticed meeting.”

This *LHI Report* is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review process. This *LHI Report* includes staff application of the Environmental Justice Screening Method (EJSM) to identify projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks.⁶

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (i.) exposure to air pollution, (ii.) cancer risk, (iii.) ozone concentration, (iv.) frequency of high ozone days, (v.) race/ethnicity, (vi.) poverty level, (vii.) home ownership, (viii.) median household value, (ix.) educational attainment, and (x.) sensitive populations (populations under 5 years of age or over 65 years of age).

⁶ California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making*, 2010. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

Determining High-Risk Communities

To determine a high-risk community, environmental justice (EJ) indicators for the proposed biorefinery location are compared to data from the U.S. Department of Census or other public agency. Staff identifies high-risk communities by using a two-part standard as follows:

Part 1:

- Communities located in nonattainment air basins for ozone, PM 10 or PM 2.5

Part 2:

- Communities having one or more of the following EJ indicators: (1) minority, (2) poverty, (3) unemployment; and/or (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:
 - A minority subset represents more than 30 percent of a given city's population. [MINORITY]
 - A city's poverty level exceeds California's poverty level. [POVERTY]
 - A city's unemployment rate exceeds California's unemployment rate. [UNEMPLOYMENT]
 - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California. [SENSITIVE POPULATIONS – AGE]

For a community to be considered high risk, for this assessment, it must meet both Parts 1 and 2 of this standard.